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# ❖ The Maine Installer ❖

*Dedicated to Professionalism in Underground Tank Installation*

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Volume 6 Issue 1

January 1998

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## Time's Up!

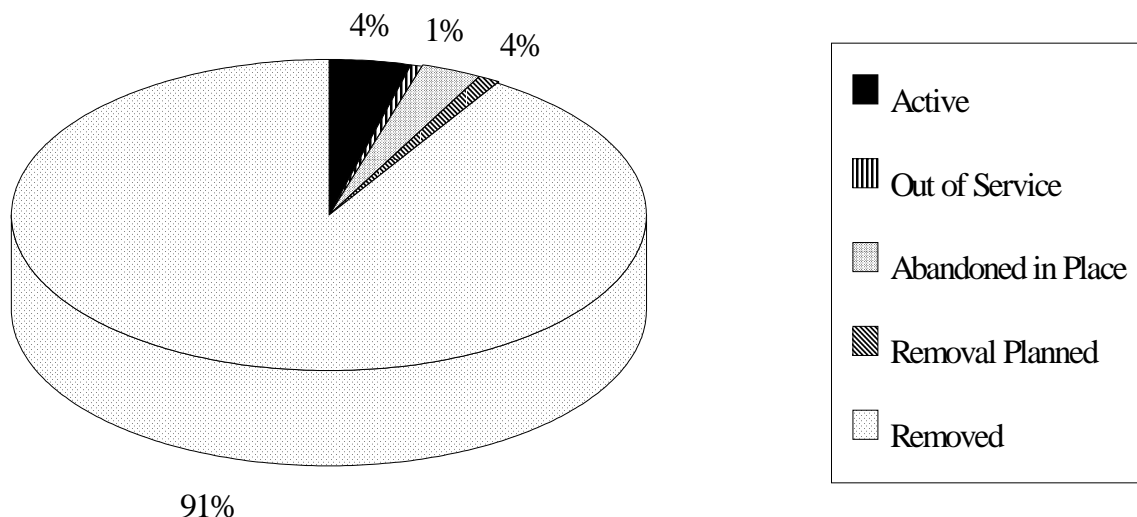
**7** he long awaited date has come and gone, but there's probably no need to tell installers that Maine's deadline for removing or replacing the vast majority of bare steel underground tanks happened this past October 1. The only exceptions are tanks owned by municipalities and schools, and they have another year. Most installers we've talked to have been right out straight trying to serve all those last minute customers who waited until September so's to make sure the State was serious. We've heard stories of some installers sleeping in their backhoes, and so we delayed the newsletter a little bit hoping maybe in midwinter folks would actually have an opportunity to read it. Anyway, here's the statistics on where we stand as of December 1997.

As the pie chart provided with this article shows, 95% of the 33849 bare steel tanks that used to be buried in Maine

have been removed, legally abandoned in place, or are planned to be removed at this writing. That leaves 5%, or 165, that remain active or temporarily out of service. We're assured by DEP staff that every effort will be made to bring those facilities into compliance too.

Most of the remaining tanks are residential (either single family dwellings or apartment houses) and used to store heating oil for on site consumption. As the bar chart on page 2 shows, a total of 1069 tanks fall into this category. Lesser numbers of commercial / industrial (206 tanks), marketing (6 tanks), governmental (30 tanks), and farm (37 tanks) sites are also included.

### Unprotected UST Removal in Maine; 12/97



# Board Bio; Roger Lewis

**R**oger began his stint on the Board of Underground Storage Tank Installers (BUSTI) in December of 1994 when he was appointed as the public member. He grew up in a family of four on a dairy farm in Lagrange, Maine. He was educated in a one room schoolhouse for the first eight years of his schooling and from there attended high school in Old Town. He graduated high school as an honor student in 1964, after having served in the student council, as well as on the debate and cross-country track teams.

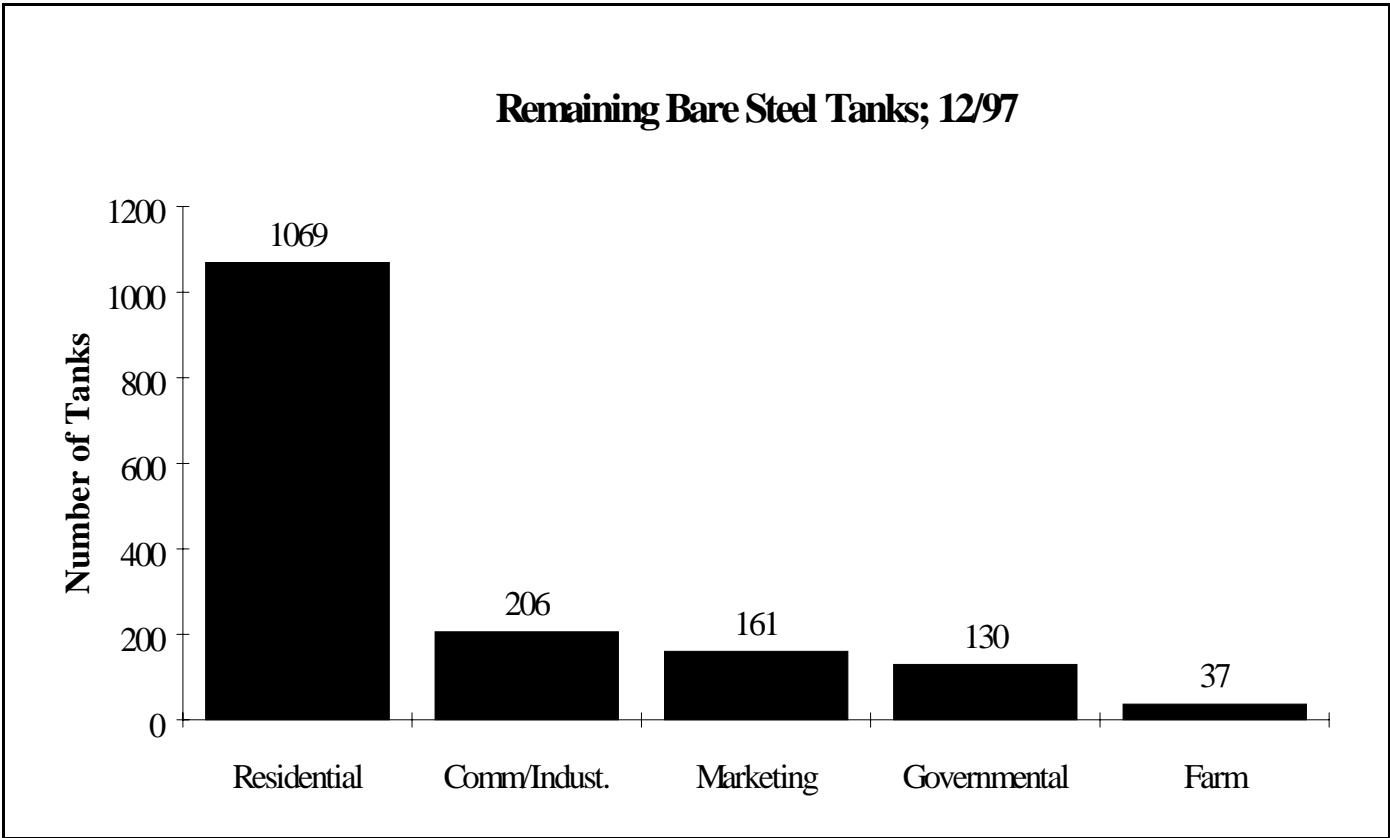
For the next year, Roger attended Bentley College, but had to take a job to earn money to continue college. Drafted in 1966, Roger spent the next two years in Vietnam as a tractor trailer driver assigned to infantry support.

After returning with an honorable discharge as a corporal in 1968, Roger opened Westgate Texaco in Bangor in 1969, which he still owns and operates. Thrifty Car Rental

and Ryder Truck Rental franchises have been added onto the business in the intervening years.

Roger and his wife, Shelly, have three sons: Perry, who is a History teacher in Eagle River, Alaska; Derek, who is a Chemical Engineer for DuBois Chemical in West Paris, Maine; and Jason, who is an eighth grade student at Garland Street School in Bangor.

Roger spends his leisure time in the outdoors, where he enjoys cutting wood, hunting, and spending time in the North Maine Woods. He has been known to make other Board members and staff envious with accounts of his annual duck hunting trips to Louisiana. He also enjoys gardening, and in fact maintains a flower garden at his service station.



# A Tank Installer's Guide to the Internet

Everywhere I look these days, I see addresses to internet sites. Why, they're even on the beer ads during televised football games. Almost as surprising, there are installers who are getting computers and getting connected. So, with everybody else giving out internet addresses, I thought I'd let you in on a few that may help you find information that's useful for installing and removing tanks. I'm avoiding strictly commercial vendor sites in order to save space, but many of these can be found through the industry organization sites which are described towards the end of this article.

**Government Sites.** This being a newsletter paid for by the State of Maine, it's only fair to start with the Maine State site. The address of the home page for all of Maine State government is "<http://www.state.me.us>." Most Maine State agencies have a presence on this page as well as a home page of their own. The DEP, for example, is at "<http://www.state.me.us/dep/indephome.htm>." In case you've misplaced your copy of the underground tank rules, the tank installer rules, the vapor recovery rules, or any other of the regulations administered by DEP, you can find them here. The site will also give you news of what the Department is doing and a list of who to contact for what issues.

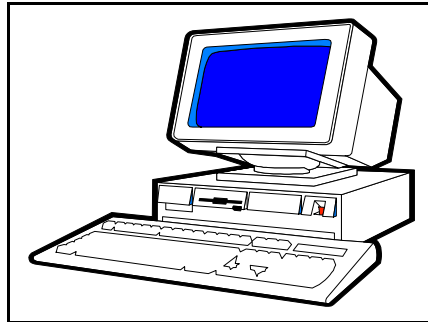
The Maine State Legislature also has a presence through the Maine State home page, and their address is "<http://www.state.me.us/legis/homepage.htm>." There you can view all of the current laws of Maine, find out how to contact your legislators, and determine the status of any proposed laws of interest to you.

In most cases, you can use the format of the Maine State address to guide you to the home pages of most other states in the country. Just substitute their two letter postal code for "ME," and you'll more than likely get there. In the majority of cases, from the state's home page you'll be able to get to whatever the environmental and/or public safety agency is in that state which regulates tanks.

A Federal agency, the U.S. Environmental Protection Agency (EPA), also regulates tanks. To find out what they're doing, you can access the home page of the Office of Underground Storage Tanks at "<http://www.epa.gov/OUST/index.htm>."

EPA also maintains a bulletin board service, entitled "CLU-IN," with articles and discussions about underground tanks through its underground storage tank special interest group. The internet address for this is "<http://www.clu-in.com/list.htm>."

All Federal rules, including those for underground tanks, are initially published in the *Federal Register* and finally codified in the *Code of Federal Regulations*. Both of these sets of documents are available on the internet through the site of the Government Printing Office, "<http://www.access.gpo.gov>." This site also contains the *Congressional Record* (basically the "minutes" from all sessions of Congress), and the *Commerce Business Daily*, which is the Federal government's



way of advertising work which they plan to contract out.

Federal laws are codified in the *United States Code*. That, too, is on the internet at "<http://www.law.house.gov/uscode.htm>."

**Industry, Professional, and Related Organizations.** Certainly we shouldn't get too far into this discussion before mentioning that the Maine Oil Dealers' Association (MODA), which has a great deal of interest in underground tanks in Maine, also maintains a site at "<http://www.meoil.com>." Their newsletters are there along with their perspectives on the underground tank situation in Maine.

Many of the folks that develop the recommended practices used in the tank installer exams also have presences on the internet. Some do not put their entire publications on their home pages, because they'd still rather sell the paper copies to interested folks. You can still find out what's being revised, though. Some of those groups are the American Petroleum Institute (<http://www.api.org>), Petroleum Equipment Institute (<http://www.peinet.org>), National Fire Protection

Association (<http://www.nfpa.org>), Steel Tank Institute (<http://www.steel-tank.com>), and the National Association of Corrosion Engineers (<http://www.nace.org>).

Finally, a number of commercial magazines about the petroleum industry can be found on the internet. Some place their entire magazine there, others only a table of contents or summary of what's in the magazine. Petro Retailnet (<http://www.petroretailnet/index.ssi>), for example, is a way to access the *National Petroleum News* and the *Fuel Oil News*. *Petroleum Equipment & Technology* can be found at "<http://www.pe-t.com>," while the *Journal of Petroleum Marketing* can be found at "<http://www.jpemark.com>."

Happy web surfing.

## Who Signs the Forms

After a recent review of the Department's files for underground oil storage tanks, the Department discovered that many of the underground storage tank registrations are signed by the certified installers instead of the facility owner or the owner's permanent employee. I realize that this practice was done in order to expedite the paper work required for tank installations, equipment upgrades and/or removals for these facilities. However, this practice has caused problems, particularly when a facility is involved in an enforcement case where proof of ownership is an important issue. This practice is also a violation of Chapter 691, Section 4 (17) Registration of Underground Oil Storage Facilities which states the following: "Certification of the accuracy of the information by the tank owner or the owner's permanent full time employee. The certification cannot be signed by the installer or other subcontractor, unless the tank is owned by the installer." Registrations which are not signed by the owner or their full time employee will be returned as an incomplete registration pending proper certification.

*Rick Kaselis, DEP BRWM DOHWFR Licensing Unit.*

# Fiberglass Coated Steel Still Not Proven in Maine

**W**ay back in the olden days when the Maine Department of Environmental Protection (DEP) began considering regulations for underground tanks, three technologies existed for protecting those tanks from corrosion: (1) cathodic protection, (2) fiberglass construction, and (3) fiberglass coating of steel. While DEP found a good deal of evidence and history that suggested that the first two means of corrosion protection worked, it did not find a lot of real world evidence to support that fiberglass coating of steel, in and of itself, would stop corrosion. While the theory was that a thick enough coating of fiberglass would isolate the steel from the electrolyte and thus prevent corrosion, the theory had not been demonstrated to DEP's satisfaction.

So, DEP tried its own test. It was admittedly unsophisticated, inexpensive, and used an extremely small sample size. We summed if the steel of a fiberglass coated tank was in fact isolated from the soil electrolyte, there should be no electrical potential (voltage) between such a tank and its surrounding environment. A very limited number of fiberglass coated steel tanks were being installed in Maine, so DEP set about the task of measuring electrical potentials and found those potentials were measurable between fiberglass coated steel tanks and their environments. When we shared our findings with the manufacturers of those tanks at that time, they could not explain why electrical potentials would exist. So, when Maine's first underground tank regulations were written, fiberglass coated steel was excluded as an acceptable technology. In fairness, we've been presented with arguments in the intervening years as to why a voltage could be measured.

As has been the case with a number of other points, Maine became a "maverick" state in this area. Fiberglass coated steel was subsequently accepted by many other states, and even by the Federal government as an acceptable means to prevent corrosion. But, the saga continues ...

During the past 10 years, almost everyone who owns, operates, manufactures or sells underground oil storage tanks, piping or related equipment in Maine has been aware of the state removal deadlines for underground oil storage facilities and tanks that are "not constructed of fiberglass, cathodically protected steel or other non-corrosive material approved by the department". The final prohibition on non-conforming tanks was October 1, 1997 (except for municipalities and school administrative units, which have until October 1, 1998 to comply with this requirement).

Prior to 1985 and just before the first state laws and Department regulations for underground facilities were enacted, a handful of underground UST owners installed fiberglass-clad steel tanks of single walled construction at their facilities. Because the Department has never recognized fiberglass-clad steel tanks that were not also cathodically protected as adequately protected from corrosion, they are subject to the same October 1, 1997 removal deadline as are all bare steel and asphalt-coated tanks and piping.

One underground oil storage facility owner in

particular challenged this requirement late in 1996. This owner had installed fiberglass coated steel tanks at four retail facilities in Maine in the early 1980s, the newest reportedly having been installed in 1984. The owner argued that in other states where they operated fiberglass coated steel tanks, the States were allowing the tanks to remain in use until their warranties expired.

The Maine DEP responded that Maine regulations prohibited fiberglass coated steel tanks from being exempted from the removal schedule. In short, DEP has never been confident that simply adding a single fiberglass coating to a steel tank would provide any significant measure of corrosion protection.

As fate would have it, in March 1997, the failure of a fiberglass coated steel tank at one of the owner's facilities brought the argument to a timely end. Late in February the facility manager reportedly discovered a 1/2" increase of water in a 24 hour period in a 4,000 gallon fiberglass coated steel tank that held unleaded plus gasoline. After a repeat of this occurrence twice within the following two week period, and attempts to troubleshoot the cause of this evidence of a leak, the owner concluded that storm water runoff was not the source of the problem, as originally suspected, and contacted DEP. In addition to the suspected leaker, the owner then scheduled the removal of all tanks at the facility, which included five 4,000 gallon fiberglass coated steel tanks that had been installed in 1984.

The big excavation occurred on a chilly, blustery day in March under the watchful eyes of a Maine licensed installer, DEP Response staff, the owner, the owner's attorney (yes, it's

true), DEP Technical Services staff, and me. The excavation proceeded smoothly, with much hand shoveling, scraping, close inspection and photographing of each tank as it was excavated. On each tank, the fiberglass coating was partially detached, and minor to moderate corrosion as shown by dark brown "leopard spots" was visible underneath the coating. It was relatively easy to peel off some of the fiberglass covering from each tank. However, we were not able to immediately locate a hole on the leaker, or any of the others. Due to a high groundwater table at the site, it appeared that most of the leakage had been in the form of water into the tank, rather than product out of the tank.

The leaker was then stored off site for several days following the removal, so that further inspection and possible helium testing of the tank could be conducted. When more of the fiberglass was peeled off, a corrosion hole approximately 2" to 3" in diameter was revealed directly under the fill pipe! The tank had been taking on about 1/2" of water per day.

This was a rare opportunity to get an up-close look at a 14 year old fiberglass coated steel tank that had "evidence of a leak" and was out of the ground, so I contacted the Steel Tank Institute for any technical guidance they might have, and to offer them an opportunity to study the tank. In fact, STI was so interested that they flew their corrosion engineer to Maine so that she could evaluate the condition of the tank.

To make a long story short, the tank had failed because of internal corrosion. (Fiberglass coated steel tanks manufactured in 1983 did not have striker plates under the fill

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## Guide to the Internet

## Fiberglass Coated Steel

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pipes. According to STI's report, the addition of a 0.25 inch striker plate would have extended the life of the tank beyond the present-day 30 year warranty.) There were numerous holidays and pinholes in the fiberglass coating, but these did not appear to have damaged the metal beneath it. Based on the coating delaminations, it was concluded that the tank surface was improperly prepared prior to the application of the coating. The delamination of the coating may have exacerbated the development of pitting and corrosion, once it started. The leopard spotting of the metal appeared to have been caused by constant moisture under the fiberglass coating.

Fortunately, the combination of the tank owner's relatively quick response to evidence of a leak and the hydrogeological conditions at the site minimized the impact of the leak on the environment, and clean-up was completed in the short term.

And, the tank owner promptly had a change of heart and proceeded to remove all fiberglass coated steel tanks at all of its facilities in accordance with the October 1, 1997 deadline.

*Diana McLaughlin, Environmental Specialist, DEP BRWM DOHWR, Oil Enforcement unit.*

## Training Update

A number of safety training providers remain accredited by the Board for providing installers with continuing education training. Annual one day safety refreshers are good for two hours credit, while the week long major course is good for eight hours credit (which will meet an entire period's certification requirement). Vendors currently accredited are:

Safetech Consultants, South Portland, 207 /773-5753;  
Field Services, Portland, 207 /878-9070;  
Safety Communication, Presque Isle, 207 /62-3481;  
Burgess & Associates, Plymouth, 800 /773-2723;  
E.C. Brent Co. (New Hampshire), 603 /654-6961;  
Industrial Hygiene of New England, 207 /947-6645; and  
Pine State Health and Safety, 207 /445-5413.

The American Petroleum Institute (API) has received continuing education credit for two "Operation Underground" offerings. These are video tapes combined with written study materials and examinations. The first offering, "Installation," is good for three (3) hours credit, while the second offering, "Removal," is worth two (2) hours credit. Contact Cara Guzik at API (220 L St., NW; Washington, D.C.; 20005-4070, telephone 202 /682-8227, fax 202 /682-8222, e mail [guzik@api.org](mailto:guzik@api.org)) for more

*(Continued on page 6)*

## A New RP 100

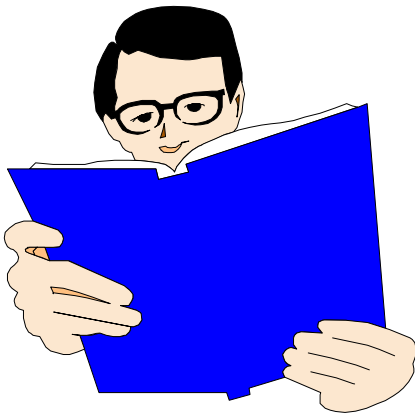


ur old friend, the Petroleum Equipment Institutes' (PEI) Recommended Practice, *Recommended Practices for*

*Installation of Underground Liquid Storage Systems*, has been again updated in November of 1997.

According the Robert Renkes, the executive vice president of PEI:

"Readers of the 1997 document



should note that the recommended practice has undergone extensive changes. Three chapters (spill containment and overfill prevention, secondary containment, and leak detection) were completely rewritten. Significant additions were made to the flexible piping section of Chapter 9. Twenty figures were changed in some manner (see diagram), and extensive editorial revisions were adopted to make the text more readable and to clarify the meaning of some of the recommended practice's provisions.

Our own Marcel Moreau served as consultant to the committee which revised RP 100.

Copies are available for \$25 (includes postage and handling) from PEI, P.O. Box 2380, Tulsa, Oklahoma 74101-2380. Phone: (918) 494-9696.

## Training

(Continued from page 5)  
information.



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## The Maine Installer

State of Maine

**BOARD OF UNDERGROUND STORAGE TANK INSTALLERS**

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Augusta, Maine, 04333

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